



Red Gap Ranch

PIPELINE ALIGNMENT PUBLIC OPEN HOUSE

January 8, 2009

Presented by

Bradley M. Hill, R.G.

Water Resources Manager

and

Doug L. Smith, P.E.

Jacobs Engineering



GOALS

- **WHY Red Gap Ranch?**

- *need for water resource diversification, its not all about growth*

- **WHAT the City is doing?**

- *Goals of Pipeline Feasibility Study*

- **WHERE to next?**

- *Vision of the future*





WHY - Red Gap Ranch?

Water Pipeline History

1898 - Inner Basin to Flagstaff (~12 miles)

1941 - Upper Lake Mary dam to Flagstaff (~5 miles)

1954 - Woody Mtn Well Field to Flagstaff (~ 6 miles)

1960s - Lake Mary Well Field

1990s - Local wells in town

2020 - Red Gap Ranch (~40 miles)

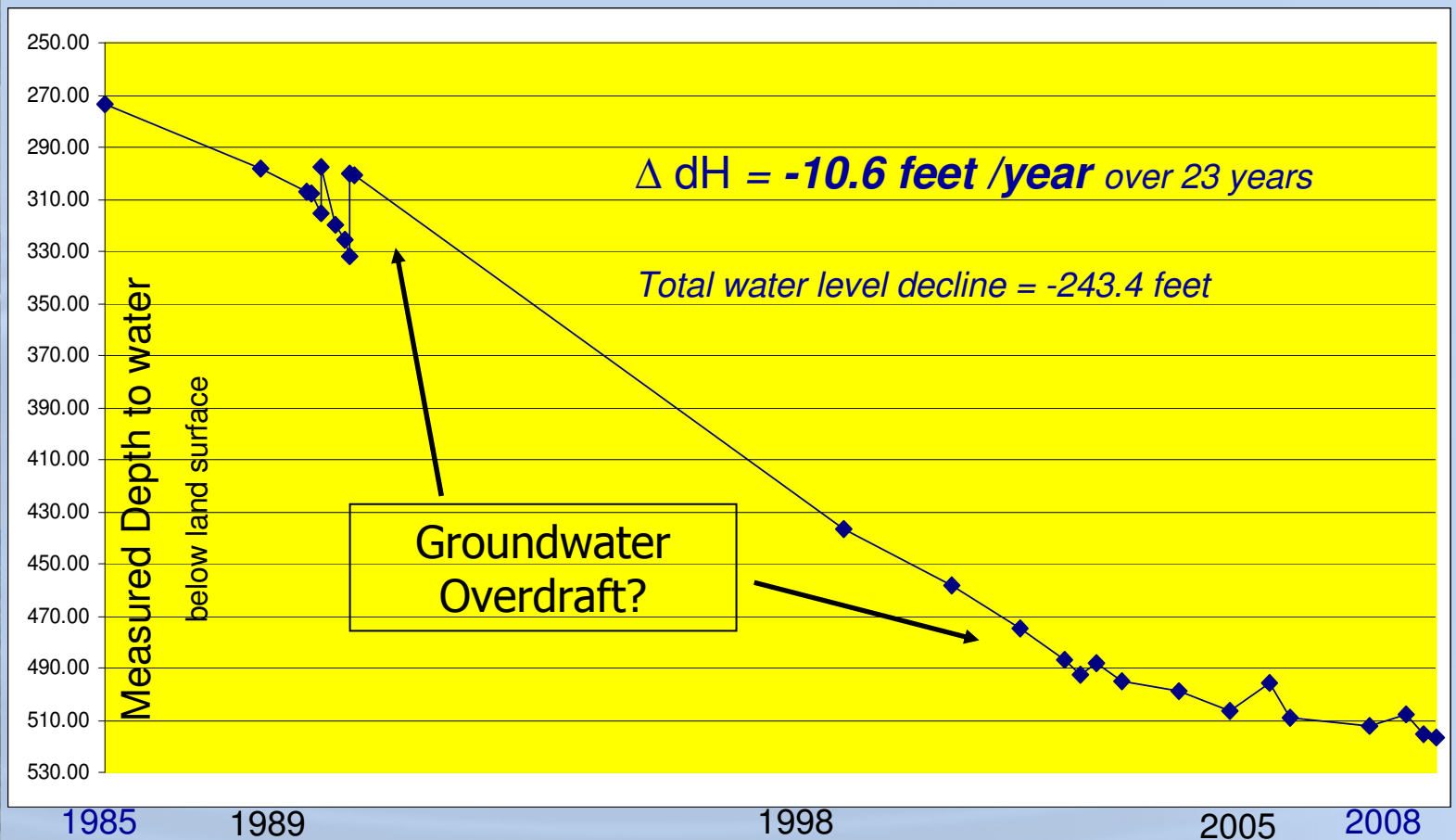




WHY - Red Gap Ranch?

LAKE MARY Observation Well #2

Water Level Hydrograph

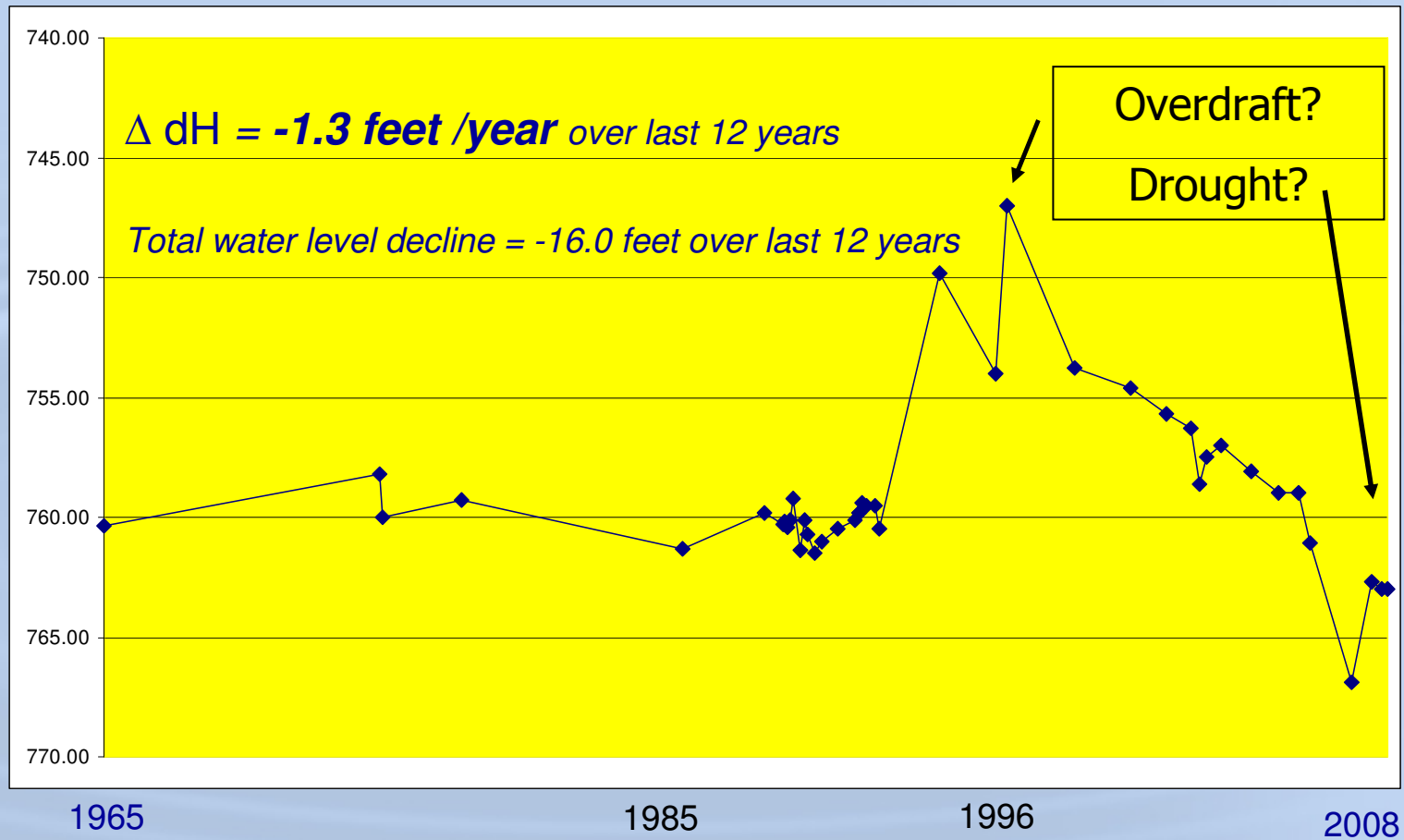


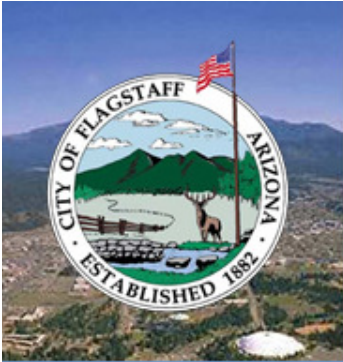


WHY - Red Gap Ranch?

LAKE MARY WELL #3

Water Level Hydrograph





WHY - Red Gap Ranch?

WATER MANAGEMENT DECISIONS

- *Water Conservation* – decrease in per capita water use by ~40% since 1980s (186 → 116 GPCD)
- Still have Long-term impacts to groundwater supplies
- Need for a diversified water supply for existing residents here today - redundancy & drought protection





Citizens approve Future Water Supply Bond Election

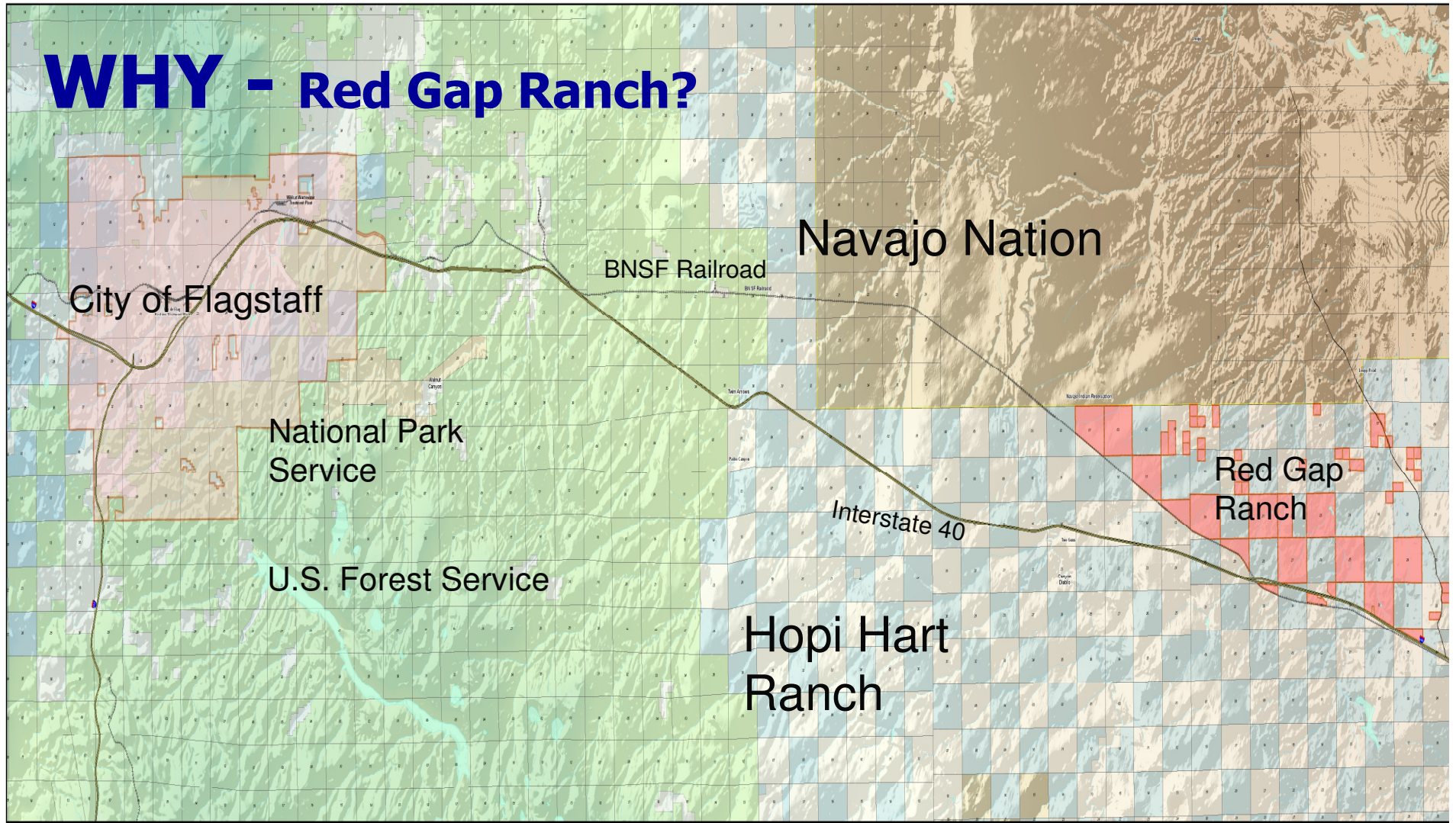
- Due to multi-years of drought and impacts to Flagstaff's water supplies
- In 2004, a \$15 million Bond was approved
- Purpose to acquire and/or develop property or water rights



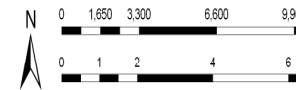
City of Flagstaff - Red Gap Ranch Pipeline Project



WHY - Red Gap Ranch?



Red Gap Ranch

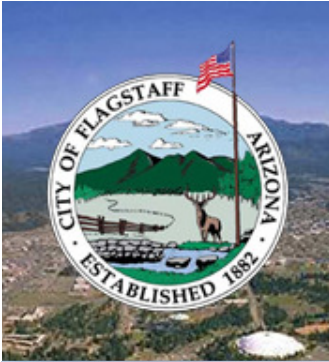


West: Groundwater Transportation Act

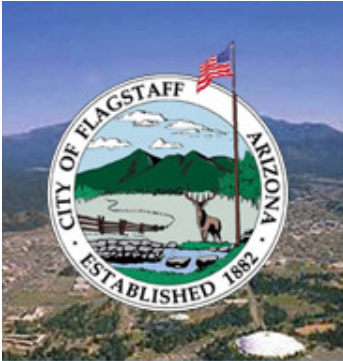
South & North: U.S. Forest Service

East: National Park Service &
U.S. Forest Service

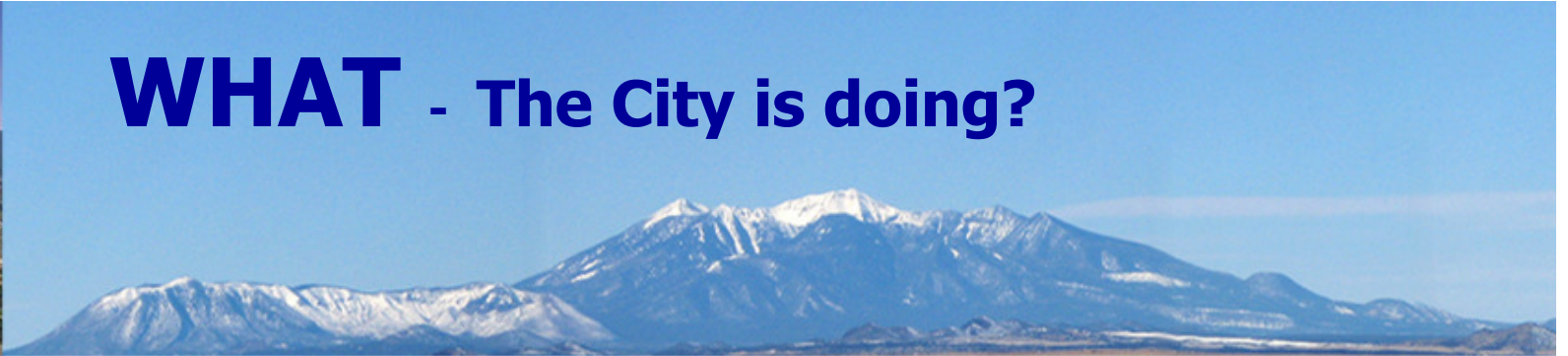
Far East: Private Lands & Aquifer



City purchased
Red Gap Ranch
water supply
in 2005



WHAT - The City is doing?



REGIONAL COOPERATION

thru the

Coconino Plateau Water Advisory Council

Coconino County; City of Flagstaff; City of Williams; City of Page

Navajo Nation; Hopi Tribe; Havasupai Tribe; Hualapai Tribe; San Juan
Southern Paiute Tribe

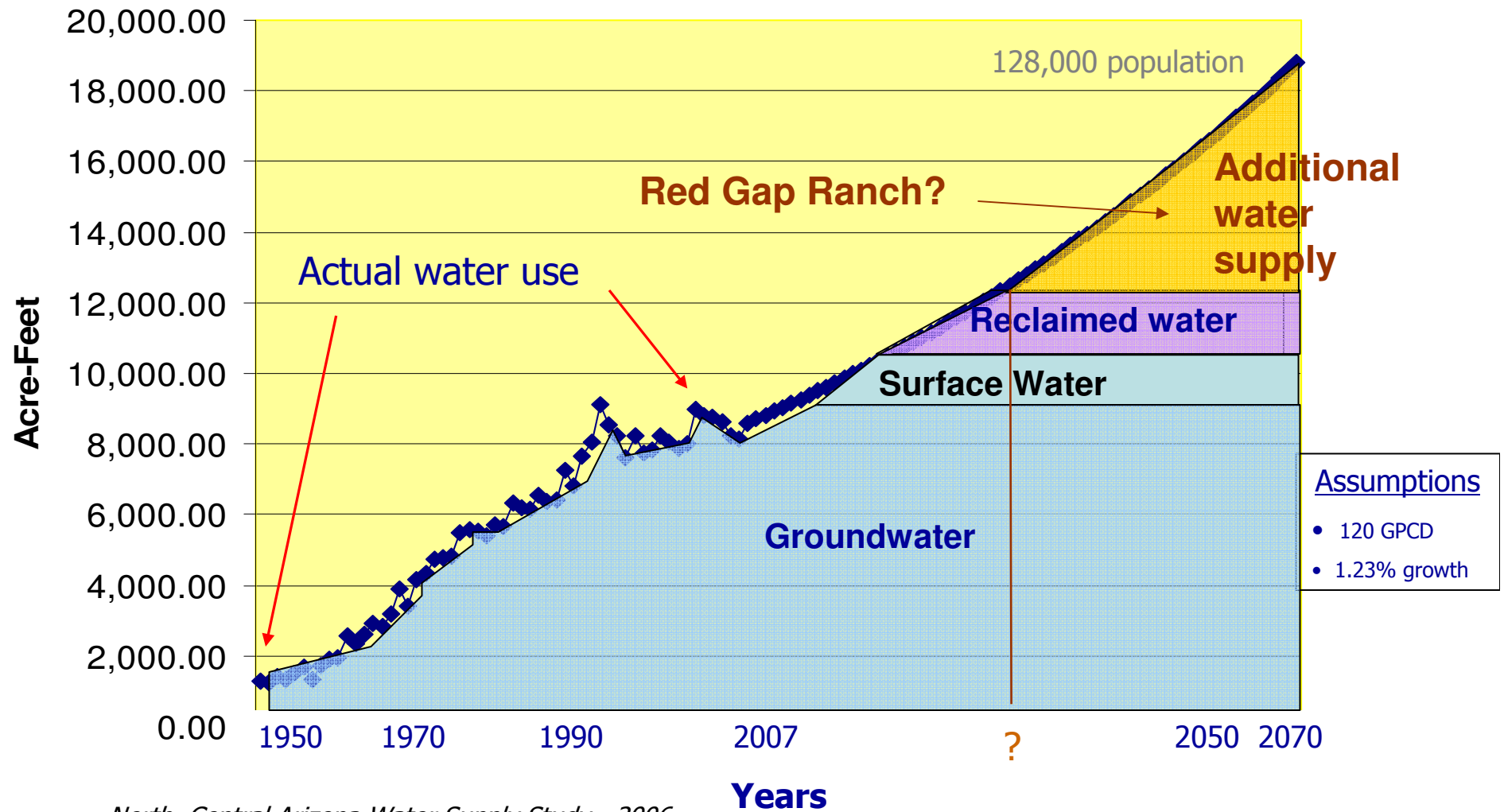
ADWR; USBR; U.S. Geological Survey; Kaibab & Coconino National Forests;
Fish & Wildlife Service; Grand Canyon Trust

***Completed North Central Arizona Water
Supply Study - 2006***

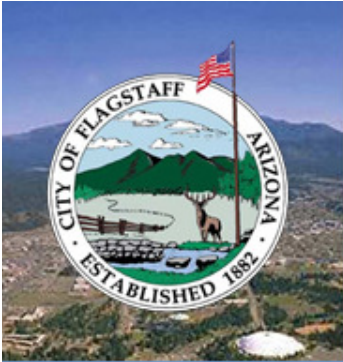




Looking to the FUTURE



North Central Arizona Water Supply Study - 2006



WHAT - The City is doing?

Declining groundwater / better drought protection & redundant supplies for residents today / accommodate growth

~ Decision Points ~

Today

Looking to the **FUTURE**



100 years

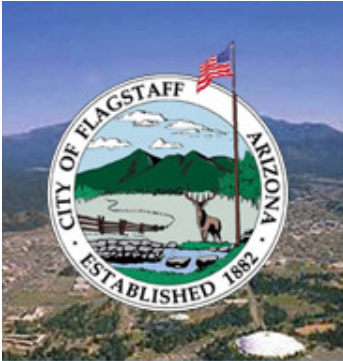
2015

2020

2050

2110

Time



WHAT - The City is doing?

- 3 New Wells

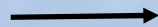
Ft. Tuthill

Sinagua Well

Stonehouse Well

- Water Resources

Master Plan



100 years

2009

2015

2020

2050

2110

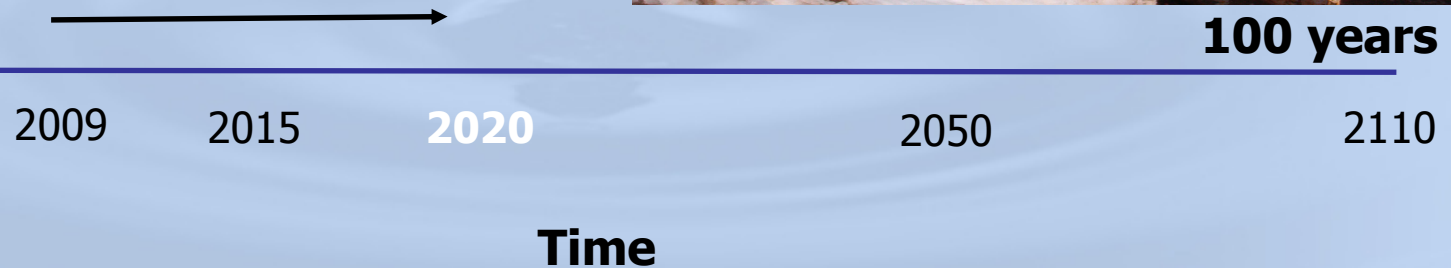
Time





WHAT - The City is doing?

- Additional Wells ?
- Hydrologic Study long-term sustainability of Flagstaff area water supplies





Red Gap Ranch

Conceptual Timeline

Pipeline Feasibility Study underway
ADWR hydrologic physical availability

Begin National Environmental
Policy Act

Environmental Impact
Statement

Begin Right-of-Way acquisition

Funding options discussed & finalized

Begin final design of pipeline
and on-site wells & piping

Red Gap Ranch on-line ?

Complete construction of pipeline

2010

2013

2015

2020

2050

Time



Red Gap Ranch



I. Pipeline Feasibility Study – JACOBS Engineering

- a. Least ENVIRONMENTAL IMPACT C. Least COST
- b. Least COMMUNITY IMPACT D. Least PROJECT RISK

II. How do we FUND the PIPELINE?

- a. Looking @ a variety alternatives (Federal, Local, Private)
- b. Prescott / Prescott Valley (watch & learn)

100% Public

100% Private



Funding Continuum